

# FROG AND TOAD IDENTIFICATION

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# FROG AND TOAD IDENTIFICATION

**GOAL:** To determine what kinds of frogs and toads are present at the wetland.

Frogs and toads, also known as Anurans, are important parts of a wetland ecosystem. Most Anurans demonstrate the need for specific food and moisture requirements (Minton 1972). Thus subtle changes can affect the diversity of frogs and toads within a wetland. Monitoring the Anuran population within a wetland can provide information on the health of a wetland and demonstrate changes in the system. For example:

- Degradation of water quality can decrease the diversity and reduce the overall population density of Anurans.
- Other disturbance, such as vegetation clearing or unnatural flooding can also alter the diversity and population density of Anurans.

**OBJECTIVE 1:** To identify the Anuran species within a wetland by “call” identification.

## **BACKGROUND**

Several species of Anurans vocalize or “call” for breeding purposes or to define their territory. Each of these vocal species produces a sound that can be distinguished from the calls of other species. By recording and identifying these calls, you can determine which Anuran species are present in your wetland.

## **BEFORE YOU CONDUCT YOUR SURVEY**

It will be important to familiarize yourself with the calls of common Anurans prior to conducting your survey. The use of an audio guide to Anuran calls paired with a field guide can be helpful. Use the maps within the field guide to determine which species are present in your area. Listen carefully to these species in your audio guide. You should note which species sound similar to each other. The following supplies are recommended for this type of survey:

- Audio guide to Anuran calls (see the List of Resources at the end of this module) and Indiana Frog Call Tips (included in this module)
- Indiana Frog and Toad Breeding Seasons Chart (included in this module)
- Indiana Frog Ranges (included in this module)
- Note pad and pencil for recording notes and species identified
- Optional: Pocket audio recorder

## **FIELD SURVEY INSTRUCTIONS**

This type of Anuran survey should be conducted during spring, summer and fall months. Several surveys (a minimum of three) should be conducted throughout the year since each species has a specific and different breeding period. The best time to conduct the survey is approximately 30 minutes after sunset or later. The air temperature should be greater than approximately 50 degrees Fahrenheit. The survey should not be conducted during periods of heavy rainfall, however light rain is acceptable. Also, avoid conducting your survey if it is very windy. It is difficult to hear certain frog and toad calls if the wind is stronger than a gentle breeze.

Step 1: Choose several monitoring stations around and within the wetland if possible

- Identify your monitoring stations on a map
- Choose at least one monitoring station per habitat type (forested, emergent, shrubs, etc)

Step 2: Survey one monitoring station per evening

- Record the weather data on your data sheet. Include the current temperature and precipitation as well as conditions during the past 48 hours.
- Be sure to give wildlife a few minutes to become acclimated to your presence after your initial arrival to the wetland.
- Conduct your listening survey for a period of three minutes exactly.
- It is important to remain quiet during the surveying period.

Step 3: Identify and Record Anuran species heard

- Identify and record each species heard.
- Record the "Calling Index" for each species. This index is explained on the data sheet.
- Use a pocket audio recorder to record sounds if you cannot identify them. Compare these sounds to those on an audio guide to Anuran calls.

### **RECORD AND TALLY INFORMATION**

Record and tally (if possible) the species and numbers of Anurans identified. Compare these results to the results obtained during previous years if possible. A decline in the diversity or the population density of Anurans may indicate a decline in habitat. Due to the natural variation of water levels in wetlands, some variation in Anuran populations is expected from year to year.

# Wetland Anuran Survey Form – Audio Survey

Date: \_\_\_\_\_ Time Started: \_\_\_\_\_ Time Ended: \_\_\_\_\_

Current Weather Conditions: \_\_\_\_\_ Past Weather Conditions: \_\_\_\_\_

Wetland Name (assign one if not already existing): \_\_\_\_\_

Wetland Location: \_\_\_\_\_  
(street/reference point or latitude & longitude)

City: \_\_\_\_\_ Zip: \_\_\_\_\_ County: \_\_\_\_\_

Wetland Owner (name and address): \_\_\_\_\_

Monitor (name, address, phone/e-mail): \_\_\_\_\_

Species	Calling Index*

\*Use the following "Calling Index." This index is the same as that used for the USGS Frogwatch Program.

Calling Code	Description
0	No frogs or toads can be heard calling.
1	You can clearly hear all individuals of a species and can count them easily: Individual calls are not overlapping.
2	There is some overlap of calls between individuals of a species, but individuals are still distinguishable: A fairly accurate count is possible, based on location of the calls or differences in their voices
3	A full chorus. Calls for a species are a blur of sound: calls are constant, continuous, and overlapping. There are too many to estimate the number of individuals.

# LIST OF RESOURCES

## Books and Publications

Minton, Sherman A. 1972. *Amphibians and Reptiles of Indiana*. The Indiana Academy of Science, Indianapolis.

Conant, Roger. 1975. *A Field Guide to Reptiles and Amphibians of Eastern and Central North America*. Houghton Mifflin Company, Boston.

## Supplies/Suppliers

The Calls of Frogs and Toads (Audio CD)

The Nature Store (phone: 215-918-0729)

Or [www.amazon.com](http://www.amazon.com)

Various audio guides to amphibian calls can be found on the internet. The following sites contain audio guides:

[www.state.in.us/dnr/fishwild/nongame/frogs.htm](http://www.state.in.us/dnr/fishwild/nongame/frogs.htm)

[www.naturesound.com](http://www.naturesound.com)

[www.frogwebsite.com/links/#voc](http://www.frogwebsite.com/links/#voc)

## National Frog and Toad Survey Program Sites for Further Study

Marsh Monitoring Program: [www.bsc-eoc.org](http://www.bsc-eoc.org)

Frogwatch USA: [www.mp2-pwrc.usgs.gov/frogwatch/](http://www.mp2-pwrc.usgs.gov/frogwatch/)

# Indiana Frog & Toad Breeding Seasons

Species Name	Feb.	March	April	May	June	July	Aug.
Wood frog							
Chorus frog							
Spring peeper							
S. Leopard frog							
Crawfish frog							
Plains leopard							
N. Leopard frog							
Pickrel frog							
American toad							
E. Spadefoot							
Gray treefrogs							
Cricket frog							
Fowler's toad							
Bullfrog							
Green frog							



## Indiana Frog Ranges

	State-wide	North	West	South	Exceptions
American Toad					Lower Wabash Valley
Bullfrog					
Chorus Frog					
Cope's Gray Treefrog					
Crawfish Frog (endangered)					
Cricket Frog					
Eastern Gray Treefrog					
Fowler's Toad					
Green Frog					
N. Leopard Frog (rare)					
Plains Leopard Frog (rare)					
S. Leopard Frog					
Pickereel Frog					NW Prairie & Lower Wabash Valley
Spadefoot Toad (rare)					
Spring Peeper					
Wood Frog					

## Indiana Frog Call Tips

Species	Call
American Toad	Musical trill, long (30 seconds), high-pitched
Bullfrog	Foghorn
Chorus Frog	Finger over the teeth of a comb
Cope's Gray Treefrog	Nasally wa-a-a-a, 30 second flute trill, faster and harsher than Eastern Gray Frog
Crawfish Frog (endangered)	Guttural sound, hogs at feeding time
Cricket Frog	Sund of metal balls clicked together, shaking a spray can
Eastern Gray Treefrog	Flute-like trill, slow and melodic, 30 seconds
Fowler's Toad	Sheep with a cold, nasal Waaah, 1-4 seconds, lifeguard whistle
Green Frog	Plucked banjo string or tight rubber band
N. Leopard Frog (rare)	Rattling snore, 3 seconds, like a heavy door slowly creaking open
Plains Leopard Frog (rare)	Chuck-Chuck-Chuck
S. Leopard Frog	Chuckle-like, guttural trills
Pickereel Frog	Soft steady snore, 1-2 seconds
Spadefoot Toad (rare)	Young crow, explosive grunt
Spring Peeper	Peep, peep, jingle of sleigh bells
Wood Frog	Duck-like quacks, hoarse low-pitched croaking